AMENDMENTS TO THE CLAIMS

1-7. (canceled)

8. (original) A compound that is a derivative of dextromethorphan having the nitrogen-bound methyl group substituted by a C_{1-6} alkyl group bearing a hydrogen-bond accepting group.

9. (original) The compound of claim 8, in which the hydrogen bond accepting group is a keto group, a guanidinium group or a nitrogen-containing heterocyclic group.

10. (original) The compound of claim 9, in which the nitrogen-containing heterocyclic group is a pyrollidine, imidazolidine, piperidine, hexahydropyrimidine or pyrimidine group.

11. (withdrawn) A compound comprising

a hydrophobic group comprising a saturated or unsaturated alkyl chain containing 4 to 10 carbon atoms, a saturated hydrocarbon ring containing 5 or 6 carbon atoms, or at least one ring that includes at least two conjugated unsaturated bonds, said ring optionally being fused to additional rings to form a ring system and said additional rings optionally including one or more hetero atoms;

a hydrogen bond accepting group selected from the group consisting of a keto group, a nitrogen-containing heterocyclic group and a guanidinium group;

a linker joining said hydrophobic group and said hydrogen bond accepting group and comprising 1 to 4 carbon atoms and optionally containing an oxygen or sulfur atom;

the compound having activity as a non-competitive inhibitor of Rb^+ efflux of a ligand-gated neurotransmitter ion channel receptor with an IC_{50} of less than 10 μM.

12. (withdrawn) The compound of claim 11, in which the ring is a planar, aromatic ring system.

13. (withdrawn) The compound of claim 11, in which the ring is selected from the group consisting of a phenyl ring, a napthyl ring, morphinan and dibenzo [1.4] diazepine.

14-16. (canceled)

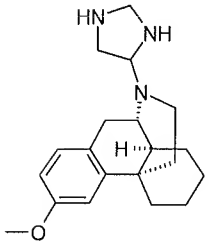
17. (previously presented) The compound of claim 8, in which the hydrogen bond accepting group is a guanidinium group or a nitrogen-containing heterocyclic group.

18. (previously presented) The compound of claim 11, in which the hydrophobic group is one comprising at least one ring comprising at least one heteroatom, and the hydrogen bond accepting group is a nitrogen-containing heterocyclic group or a guanidinium group.

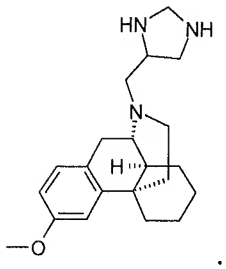
19. (previously presented) The compound of claim 11, in which the ring is a morphinan ring system.

20. (previously presented) The compound of claim 8, in which the hydrogen-bond accepting group is an imidazolidine group.

21. (new) A compound having the structure



or



22. (new) The compound of claim 8, that is a non-competitive inhibitor of a nicotinic acetylcholine receptor and binds to the lumen of the pore of said receptor with a ΔG of -8.5 kcal/mol or less.

23. (new) The compound of claim 8, that is a non-competitive inhibitor of Rb^+ efflux of a ligand-gated neurotransmitter ion channel with an IC_{50} of less than 10 μM.

24. (new) The compound of claim 19, that is a non-competitive inhibitor of a nicotinic acetylcholine receptor and binds to the lumen of the pore of said receptor with a ΔG of -8.5 kcal/mol or less.

25. (new) The compound of claim 19, that is a non-competitive inhibitor of Rb^+ efflux of a ligand-gated neurotransmitter ion channel with an IC_{50} of less than 10 μM.